

GLTPS



GREEN LINE TRAIN PROTECTION SYSTEM

A CAPITAL TRANSFORMATION PROJECT

June 2023 Review and Lookahead

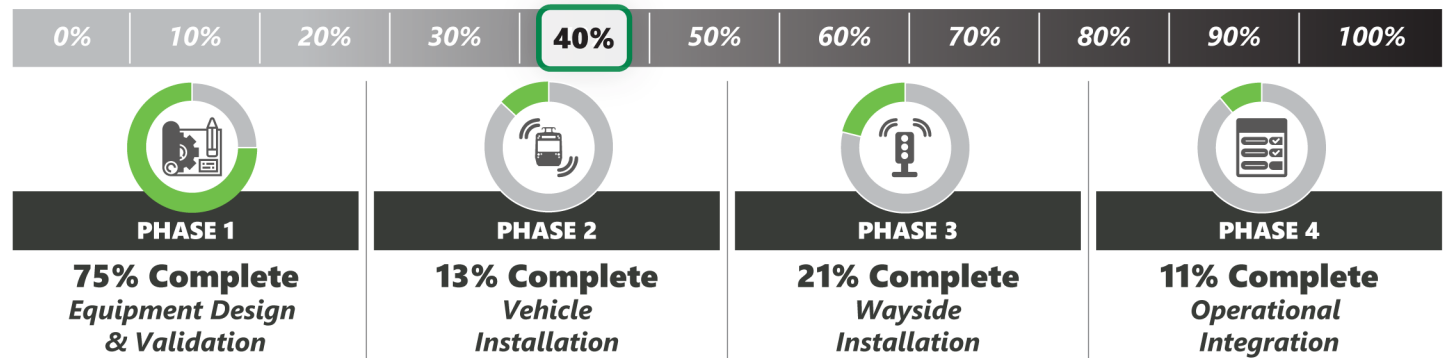
The **Green Line Train Protection System (GLTPS)** combines vehicle and wayside equipment that work together to avoid train-on-train collisions, enforce speed limits, and add red light signal protection. The project has four overlapping phases which are all currently underway

- **Phase 1 Equipment Design** integrates new technology into MBTA legacy systems.
- **Phase 2 Vehicle Installation** of camera, radar, and radio equipment into light rail vehicles with some activity already underway at the Innerbelt Vehicle Maintenance Facility.
- **Phase 3 Wayside Installation** is currently on hold and will resume later this year to align with the MBTA construction schedule.
- **Phase 4 Operational Integration** where MBTA personnel will receive information and training on GLTPS and plans are developed for system cutover.



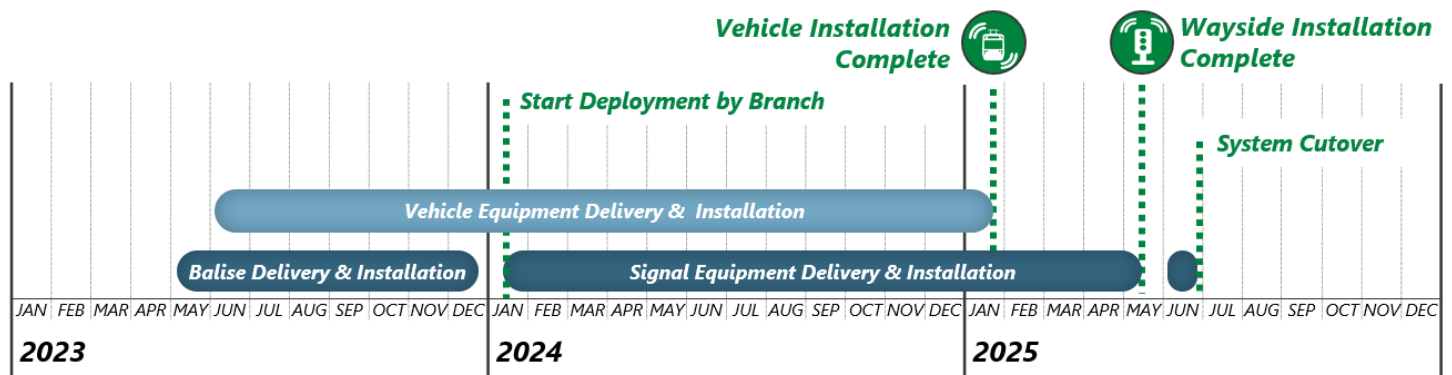
First Article Inspection Document Review

GLTPS by the Numbers



Did you know...

GLTPS signal heads will contain LEDs and replace the existing signals that use fluorescent bulbs. LEDs in general consume up to 90% less energy than conventional light bulbs and have a life cycle of 50,000-100,000 hours on average while fluorescent bulbs average 7,000-15,000 hours.



This Past Month



Equipment Design & Validation

- **First Article Inspections (FAIs) have progressed at Transitair in Hornell, NY** and will continue through July. FAIs are not only physical inspections of components and assemblies but also include validation of the documentation, equipment configuration, and eye-witnessed testing to ensure the products in question comply with the contract technical specifications.



Central equipment enclosure FAI unit



Vehicle Installation

- **The available for service 3700 series vehicles are being cycled through the Innerbelt VMF** with 11 of those 16 vehicles modified to accommodate GLTPS installation. Of the entire 3600 & 3700 series fleets, 51 of the 103 vehicles now have modified speed sensor housings installed as part of the advanced installation.



Radio antenna mounting plate



Operational Integration

- **The System Integrator's video production personnel** used car 3912 for filming activities the week of June 26. The filming scenarios followed the developed 'storyboard' per the User Education Program focused on training MBTA employees on GLTPS functionality and maintenance practices.
- **The System Integrator had personnel on-site at Riverside on June 20** as part of the test track safety compliance assessment (SCA). Validating safe maintenance practices included in the Maintenance Manual is part of the overall program SCA. Proving that signal head maintenance can be performed utilizing the current ladder design was one of the outstanding punch list items as the System Integrator moves toward safety certification.



Safety compliance assessment

Lookahead For Next Month

Continue working closely with the Systems Integrator on mitigation strategies to ensure the safe and rapid implementation of safety features and operationalize them as soon as possible



Equipment Design & Validation

- Perform component, assembly, and vehicle kit first article inspections (FAIs)
- Begin Type 8 equipment prototyping at Transitair in Hornell, NY



Wayside Installation

- Receive additional balises to support speed enforcement directive
- Complete dynamic envelope testing at specified tunnel locations



Vehicle Installation

- Begin final installation of equipment & harnesses on Pilot 3708
- Continue advanced installation including speed sensor housings on Type 7 vehicles



Operational Integration

- Video production company to continue filming in advance of training program
- Receive and review draft Operations & Maintenance Manuals